ON Semiconductor®

Test Procedure for the NCV1362WGEVB Evaluation Board

Needed Equipment

- The needed equipements are the following:
  - ✓An ac source (85 to 265 V rms, 60 / 50 Hz), needed power is below 30 W
  - ✓An input ac watt-meter, up to 30 W
  - ✓A dc load with Constant Resistance mode absorbing up to 30 V, $V_{in(max)}$ < 30 V, $I_{out(max)}$ < 2 A
  - ✓Usually, dc electronic load can display dc V and dc A. If not, an voltmeter and ampmeter will be needed

- *If the load does not use local Kelvin sensors, then the output voltage must be measured at the board level, not at the cable ends.*

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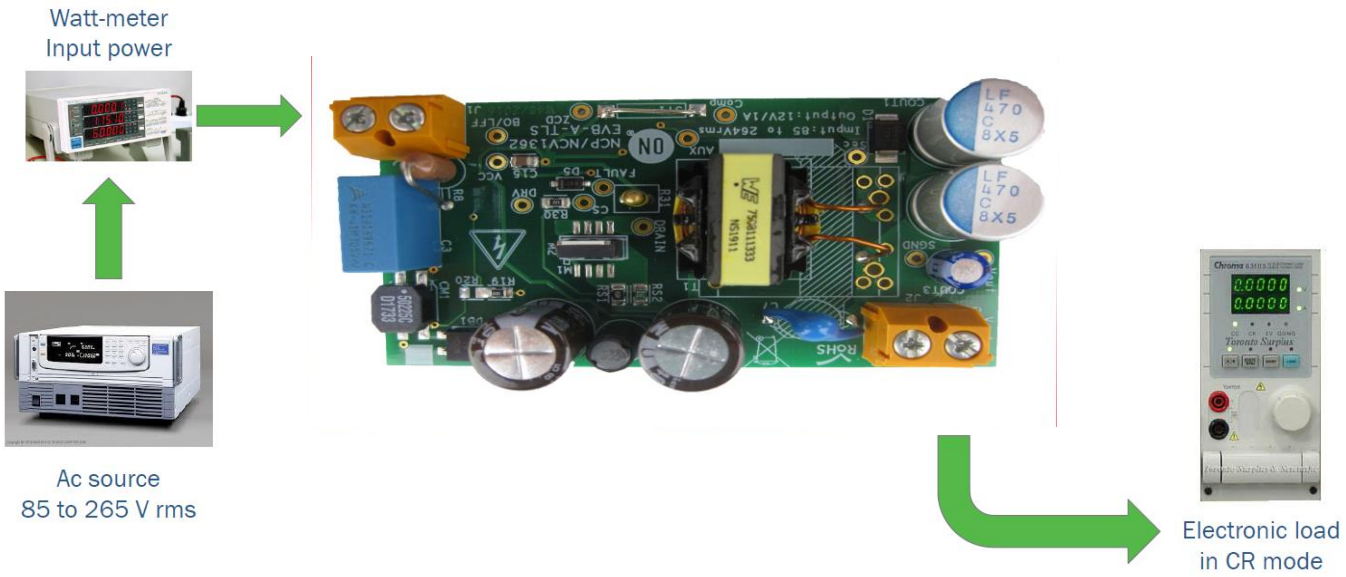
Connecting the Board for Testing



Test n°1: No-load Standby

- Apply the input voltage 115 V rms to J1 connector
- Electronic load is disconnected

  ✓*Check that output voltage is around 12 V (12.3 V max)*
  ✓*Verify that input power is below 30 mW*

- Apply the input voltage to 230 V rms

  ✓*Input power must be below 50 mW*

Test n°2: Nominal Power

- Apply the input voltage 115 V rms to J1 connector
- Connect electronic load (in CR mode) to J2 connector
- Load is set to 12 Ω

  ✓*Check that output voltage is 12 V (±5%)*
  ✓*Verify that input power is: 13 W < P_{in} < 15 W*

- Apply the input voltage to 265 V rms
- Repeat above steps

Test n° 3: Constant Current Regulation – 115 V rms

- Apply the input voltage 115 V rms to J1 connector
- Connect electronic load (in CR mode) to J2 connector

- Load is set to 8.8 Ω
  - ✓*Check that output voltage is 10 V*
  - ✓*Check that output current is 1.14 A*

- Load is set to 7 Ω
  - ✓*Check that output voltage is 8 V*
  - ✓*Check that output current is 1.14 A*

Test n° 4: Constant Current Regulation – 230 V rms

- Apply the input voltage 230 V rms to J1 connector
- Connect electronic load (in CR mode) to J2 connector

- Load is set to 8.8 Ω
  - ✓*Check that output voltage is 10 V*
  - ✓*Check that output current is 1.14 A*

- Load is set to 7 Ω
  - ✓*Check that output voltage is 8 V*
  - ✓*Check that output current is 1.13 A*

Test n° 5: UVP Protection in CC Regulation

- Apply the input voltage 115 V rms to J1 connector
- Connect electronic load (in CR mode) to J2 connector
- Load is slowly decreased from 12 Ω to 5 Ω

  ✓*Check that the controller stops switching when the output voltage drops around 7.6 V*

- Apply the input voltage to 265 V rms
- Repeat above steps